Liu, Ming-Chung 78
Locke, Martin A. 987
López-Granados, Francisca 319
Loughin, Thomas M. 110, 810, 817
Loux, Mark 995
Lym, Rodney G. 118
Mallory-Smith, Carol 759
Marginet, Anastasia M. 886
Masiunas, John B. 171, 202, 394
Massey, Joseph H. 125
Massinga, Rafael A. 523, 854
McEvoy, Peter B. 449
McNaughton, Kristen E. 312
Mengistu, Lemma W. 764
Messersmith, Calvin G. 430, 764
Michiels, An 299
Mickelson, James A. 226
Milberg, Per 418
Miller, Donnie K. 781, 786
Miller, Jerry F. 854
Miller, Mark E. 371
Miller, Travis D. 425
Milliman, Leslie D. 139
Milner, Maribeth 44
Mitskas, Michalis B. 540
Moechnig, Michael J. 363, 386
Monjardino, Marta 798
Morales-Payan, J. Pablo 181
Morghan, Kimberly J. Reever 596
Moro, Fabíola V. 177
Moro, José Roberto 177
Mortensen, David A. 44
Nelson, Jeffrey A. 118
Nguyen, Jamie H. T. 731
Nishimoto, Roy K. 348
Nissen, Scott J. 287
Noda, Akio 657
O'Donovan, John T. 576
Owen, Micheal D. K. . . . 78, 186, 752, 845
Palni, L. M. S. 191
Pandey, D. K. 191
Pannell, David J. 798
Papes, Monica 863
Papiernik, Sharon K. 610
Peeper, Thomas F. 231
Penner, Donald 294, 678
Pérez-de-Luque, Alejandro 702
Pester, Todd A. 287
Peterson, A. Townsend 863
Peterson, Dallas E. 37, 110, 145
Pieterse, Arnold H. 940
Pirosko, Carri B. 334
Plakhine, Dina 279
Pline, Wendy A. 19
Porterfield, Dunk 1002
Powles, Stephen B. 471, 798, 831
Prather, Timothy S. 748
Preston, Christopher 4
Price, William J. 748
Rader-Dixon, Laura T. 965
Radosevich, Steven R. 254
Ramsdale, Bradford K. 430
Rauch, Bradley J. 1016
Rayburn, A. Lane 1
Rector, Ryan J. 810, 817
Reddy, Krishna N. 496, 987
Regehr, David L. 810, 817
Regnier, Emilie E. 955
Reichers, Dean E. 139
Rice, Kevin J. 596
Richardson, Robert J. 157
Riley, Melissa B. 463
Roel, Alvaro 740
Rosales-Robles, Enrique 356
Rubiales, Diego 702
Rubin, Baruch 279, 663
Ruemmele, Bridget A. 130
Ryerse, Jan S. 443
Sadeghi, Ali M. 628
Salinas-García, Jaime 356
Sammons, R. Douglas 443
Sánchez de la Orden, Manuel 319
Schaffer, Robert 503
Schmoll, Jerron T. 955
Schooler, Shon S. 449
Schraer, Stephen M. 635
Seastedt, T. R. 237
Sellers, Brent A. 329
Senseman, Scott A. 356, 425
Shafii, Bahman 102, 748
Shah, Denis A. 1016
Shapiro, Charles A. 408, 546
Shaw, David R. 125, 557, 635
Sheley, Roger L. 246, 260
Shelton, Daniel R. 628
Shem-Tov, Shachar 690
Sherrod, Susan K. 371
Shilling, Donald G. 181
Shirtliffe, Steven J. 83, 904
Shoup, Douglas E. 145
Shtienberg, Danny 279
Sillero, Josefina C. 702
Silva, Marco Aurélio S. 177
Simarmata, Marulak 678
Simberloff, Daniel 247
Simmons, F. William 139, 898
Skinner, Daniel Z. 696
Smeda, Reid J. 329
Smith, M. Cade 125
Smith, W. David 13
Spears, Janet F. 342, 683
Spomer, Louis A. 208
Sprague, Christy L. 898
St. Amand, Paul 854
Stall, William M. 181
Steckel, Lawrence E. 898
Steele, Greg L. 586
Steinau, Athertina N. 696
Steinau, Martin 696
Stevenson, F. Craig 576
Stewart, Katrine A. 718
Stoltenberg, David E. 363, 386, 402
Stone, Martin J. 425
Stougaard, Robert N. 226
Stubbs, M. M. 254
Svejcar, Tony 266
Swanton, Clarence J. 60, 975
Tardif, François J. 312, 947
Taylor, John W., Jr. 965
Tayyar, Rana I. 731
Teasdale, John R. 628
Thill, Donald C. 102, 748
Thomas, A. Gordon 83, 904
Thomas, Judith 19
Thomas, Walter E. 342, 683
Tingle, Chris H. 56, 586
Tranel, Patrick J. 1
Trooien, Todd P. 523
Troxler, Shawn C. 13
Tsolis, Christos E. 540
Tsuji, Ryouichirou 740
Van Acker, Rene C. 435, 725, 886
Van Eerd, Laura L. 472
Vencill, William K. 28, 826
Verkleij, Jos A. C. 940
Viggiani, Pasquale 69
Wahle, Elizabeth A. 394
Wailes, Eric J. 601
Walenta, Darrin L. 379
Walsh, Michael J. 831
Wang, Yuexia 130
Ward, Sarah M. 287
Watson, Clarence 557
Wax, Loyd M. 139, 151
Weaver, Susan E. 163
Webster, Theodore M. 569, 1010
Weinberg, Tsafrir 663
Wells, Jerry W. 1002
Wells, Randy 19
Westra, Philip 287
White, Anthony D. 569, 845
White, Susan 271
Whitwell, Ted 463
Wilcut, John W. . . 13, 19, 94, 342, 671, 683, 1002
Williams,II, Martin M. 44
Wilson, Henry P. 32, 157, 515
Wilson, Robert G. 299
Wisman, Ellen 503
Witt, William W. 208, 826
Wu, Hsin-i 356
Yamasue, Yuji 740
Yates, Scott R. 610
Yenish, Joseph P. 379
Yoshino, Masahiro 740
Young, Bryan G. 151
Young, Frank L. 379
Yu, Qin 831
Zablotowicz, Robert M. 472, 496, 987
Zanin, Giuseppe 618
Zhang, Xiao Qi 831
Ziska, L. H. 914

Subject Index—Volume 51
January–December 2003

absorption 13, 110, 157, 443, 509
Abutilon theophrasti 94, 752, 914, 1016
ACCase inhibitor 764
accessions 177
acetolactate synthase . . . 139, 305, 312, 831, 845
adjuvant 151, 430
adsorption 125, 456
AE F107892 515
AE F13000 00 515
AE F130060 03 . . . . . 509, 515
Aegilops cylindrica 287, 379
Aegilops triuncialis 287
AFLP 287
Agrostis canina 130
Agrostis palustris 130
air induction nozzle 443
alfalfa 435, 876
allelopathy 425, 657
Alliaria petiolata 863
Alopecurus myosuroides 708
ALS inhibitor 305, 764
ALS resistance 139
Alyssum minus 237
Amaranthus albus 329
Amaranthus hybridus 1, 329
Amaranthus palmeri 329, 523, 696, 869
Amaranthus powellii 312
Amaranthus retroflexus . . . 60, 202, 312, 329, 869, 914
Amaranthus rudis . . 145, 329, 696, 869, 898
Amaranthus spinosus 329
Amaranthus tuberculatos 1, 752
Ambrosia artemisiifolia 947, 1016
Ambrosia trifida 955
ammonium sulfate 151
Androsace septentrionalis 592
annual bluegrass 690
Aphthona nigriscutis 118
apical dominance 348
application timing 231
Arabidopis thaliana 845
Arabidopsis 503
atrazine 312, 456, 628, 810, 817
auxinic herbicides 839
auxin-mediated responses 839
Avena fatua 102, 226, 503, 764
banded gall fly 237
barb goatgrass 287
barley 509
barnyardgrass 601, 610
benefit-cost analysis 247
bentazon 601, 1016
biocontrol 118, 237
biological control 60, 237, 449
biomass partitioning 56
biotypes 139, 177, 186
black nightshade 208
blackgrass 708
black-margined loosestrife beetle 449
bleaching herbicides 663
Brachiaria platyphylla 683
Brassica napus 83, 102, 435, 532, 576
bristly foxtail 641
broadleaf signal grass 683
Brassica napus 886, 904
bromoxynil 586, 786, 1002
Bromus secalinus 231
Bromus tectorum 371
bronze knapweed root borer 237
brown patch 130
bull thistle 876
canola 83, 102, 435, 532, 576, 886, 904
Canada thistle 299
carbohydrates 299
carbon dioxide 914
carotenoids 663
cassava 774
catchweed bedstraw 214
catechin 657
cation exchange capacity 635
Centaurea diffusa 237
Centaurea solstitialis 334, 596, 748
CGA 362622 . . . . . 13, 157, 671, 1002
cheat 231
Chenopodium album 32, 363, 386, 402, 569, 718
chlorimuron 610
chlorophyll 496
chlorophyll fluorescence 28
chromosomes 177
Chrysomelidae 449
Cicer arietinum 702
Cirsium arvense 299
Cirsium vulgare 876
clethodim 671
climate change 914
clopyralid 596
clover 759
cluster analysis 214
CO_2 assimilation 28
cogongrass 792
Coleophora lineapulvella 60
collaborative learning 271
colonization 260
common cocklebur 69, 186, 610
common lambsquarters . . 32, 363, 386, 402, 569, 718
common purslane 610
common ragweed 947, 1016
common sunflower 44, 845
common waterhemp . . . 145, 329, 696, 752, 869, 898
community restoration 596
compensatory growth 237
competition 37, 87, 94, 102, 171, 181, 386, 394, 402, 425, 435, 523, 601
competitive traits 87
conservation tillage 886, 995
corn 44, 60, 163, 363, 386, 408, 443, 523, 540, 546, 628, 810, 955, 975, 995
cotton . . . 19, 94, 557, 586, 781, 786, 826, 1002
cover crop . . . 628, 657, 774, 792, 987, 995
creeping bentgrass 130
crepe myrtle 449
crimson clover 987
critical period 408
critical time of weed removal 546
critical weed-free period 171
crop injury 781, 786
crop interference 87
crop residue 628
cropping frequency 774
cross resistance 305, 764
crowfootgrass 342
crown survival 565
Cucumis melo 56, 586
cultural control 379
curly dock 876
Cuscuta campestris 663
cyanazine 635
cyclic irrigation 463
Cyperus esculentus . . 13, 181, 557, 610, 731, 1010
Cyperus rotundus . . . 13, 181, 348, 557, 731, 1010
Cyphocleonus achates 237
2,4-D 118
Dactyloctenium aegyptium 342
dandelion 299, 435
Datura stramonium 32
Daucus carota 569
decision support software 618
defense response 294
degradation 472
degree-days 94, 718
Delia floralis 576
Delia radicum 576
desorption 456, 635
diclofop-methyl 515
diffuse knapweed 237
Digitaria sanguinalis 171, 569
DNA 1
DNA fingerprinting 287
dollar spot 130
dormancy 752
dose response 312
downy brome 371
droplet pattern 443
droplet size 443
dry bean 1016
duration of weed interference 546
early watergrass 87
eastern black nightshade 139, 208, 394, 1016
Echinochloa crus-galli 601, 610
Echinochloa oryzoides 87
Echinochloa phyllopogon 87, 740
ecological management 271
ecological niche modeling 863
ecological principles 266
economic evaluation 618
economic return 601
economic thresholds 94, 319
ecotypes 348
efficacy 110, 151, 610
Egyptian broomrape 279
Elaeagnus angustifolia 863
Eleusine indica 671
elevated CO_2 191
emergence 56, 371, 690
emergence modeling 718
emergence rate 592
emergence time 202

empirical yield loss estimation 386
endosperm 78
environmental adaptation 186
environmental factors 56, 342
eradication 247
Eriochloa villosa 78
Euphorbia esula 118
extension studies 271
Fagopyrum esculentum 657
fall panicum 569, 628
far-red radiation 208
fecundity 919
fertilizer 532
field dodder 663
fluometuron 125, 586, 1002
flurochloridone 663
foliar absorption 151
fomesafen 1016
foxtail millet 641
Galerucella calmariensis 449
Galerucella pusilla 449
Galium aparine 214
Galium spurium 214
galleta grass 371
gametogenesis 19
garlic mustard 863
gas exchange 28
gene regulation 503
gene sequencing 845
genetic diversity 69, 287
genetic recombination 696
genetic structure 69
germination 371, 592, 683, 752, 940
germination depth 78
germination model 708
giant foxtail . . 363, 386, 402, 569, 641, 752, 919, 930
giant ragweed 955
gibberellic acid 19, 503
GLEAMS 817
glufosinate 110, 130, 576, 781
glufosinate-resistant 130
glutathione-S-transferase 472
glyceollin 294
Glycine max 37, 44, 163, 294, 402, 496, 557, 618, 947, 987, 995
glyphosate 19, 110, 151, 294, 443, 496, 576, 586, 1002
glyphosate resistance 294, 678
glyphosate-resistant soybean 294, 496
golden loosestrife beetle 449
goosegrass 671
Gossypium hirsutum . . 19, 94, 557, 586, 781, 786, 826, 1002
green foxtail 641, 975
groundwater 817
growing degree days 886
growth analysis 394, 546
growth interactions 363
growth potential 191
hairy nightshade 1016
hairy vetch 628, 995
Harpalus spp. 955
harvest losses 83
Helianthus annuus 44, 279, 845, 854
Helianthus petiolaris 854
herbicide absorption 826
herbicide cross-resistance 4
herbicide degradation 628
herbicide detoxification 4
herbicide injury 826
herbicide interaction 671
herbicide movement 817
herbicide persistence 463
herbicide rate 110
herbicide resistance 312, 764, 798, 845
herbicide safeners 515
herbicide sensitivity 214
herbicide tolerance 32, 157
herbicide transport 456
highbush blackberry 965
Hilaria jamesii 371
Hordeum distichum 418
Hordeum vulgare 509
humidity 191
hybridization 1, 854
Hydrilla verticillata 863
hydrilla 863
hyperspectral 557
imazamox 576
imazapic 28
imazethapyr 110, 312, 576, 610
imidazolinone 312
imidazolinone resistance 139
imidazolinone-resistant crops 854
Imperata cylindrica 792
indirect selection 87
inheritance 4
integrated crop management 995
integrated pest management 271, 576
integrated weed management . . 37, 271, 798, 987
interference 37, 94, 171, 181, 202, 425, 435, 540, 601
interspecific hybrid 696
intraspecific variation 1, 214
invasive 334
invasive plants 260
invasive species 863, 965
invasive weeds 118, 271, 748
inverse-distance weighting 44
Ipomoea hederacea 610
irradiance 191, 208, 898
irrigation 463
isoxaben 463
isoxaflutole 810
isozyme analysis 731
Italian ryegrass 425, 509
itchgrass 177
ivyleaf morningglory 610
johnsongrass 28, 356, 540
jointed goatgrass 287, 379
kd values 125
knapweed root weevil 237
knapweed seed head fly 237
knowledge networks 271
Kochia scoparia 430, 839
kochia 430, 839
kriging 44, 319
kudzu 965
Lactuca sativa 657
Lagerstroemia indica 449
landscape variables 748
large crabgrass 171, 569
Larinus minutus 237
late watergrass 87, 740
leaf area distribution 386
leaf area index 202, 523
leaf number 163
leafy spurge 118
Lespedeza 863
lesser knapweed flower weevil 237
lettuce 657
Leucaena leucocephala 774
light competition 546
life table response experiment 930
light interception 386, 523
linear alcohol ethoxylate 430
linkage 4
logistic function 363
loblolly pine 965
Lolium multiflorum 425, 509, 515
Lolium rigidum 4, 678, 798
Lycopersicon esculentum 181
Lythrum salicaria 449, 565
male-sterile pollen 19
Manihot esculenta 774
mating system 69
mechanistic phenology model 356
Medicago sativa 435, 876
mesotrione 663
metabolic fate 472
metabolism 13, 157, 509, 515
metolachlor 628
Metzneria paucipunctella 237
microarray analysis 503
minimum curvature 44
minirhizotron 334
mixed communities 386
modeling 102, 798
moisture depletion 334
moisture stress 56
molecular characterization 214
MON 37500 231
monochoria 305
Monochoria vaginalis 305
morphological differences 214
morphology 177
MSMA 586, 1002
Mucuna cochinchinensis 792
multiple resistance 312, 515, 764
multiquadric radial basis function 44
multivariate analysis 418
N competition 546
necrotic response 702
N-1-naphthylphthalamic acid 503
naphthalic anhydride 472
native species 596
natural infestation 379
net carbon assimilation 28
nicosulfuron 28
Nicotiana tobacum *826*
nitrogen fertilizer 975
nitrogen 394, 408, 532, 546
non-point source contamination 456
non-target application 781, 786
non-target effects 596
non-target species 596
no-tillage 569
on-farm research 618
Orobanche aegyptiaca 279
Orobanche cumana 279
Orobanche minor 759
Oryza sativa 87, 601
oryzalin 463
Palmer amaranth 329, 523, 696, 869
Panicum dichotomiflorum 569, 628
Panicum virgatum 125
parasite-host interaction 702
parasitic plants 702
parasitism 759
Parthenium hysterophorus 191
Peromyscus spp. 955
pesticide metabolism 472
pesticides 635
Phaseolus vulgaris 171, 202, 1016
phosphorus 425
photomorphogenesis 208
photoperiod 186
photosynthesis 191
photosynthetic photon flux 208
phylogenetic analysis 214
picloram 118
plant competition 102

plant disease 130
Pinus taeda 965
plant invasions 254
poikilotherm rate equation 356
pollen movement 854
pollen viability 19
pollination 19
polyploidism 69
population dynamics 237
Portulaca oleracea 610
potato 32
Powell amaranth 312
prairie sunflower 854
precision agriculture 319
prediction models 748
predispersal seed predation 60
prometryn 1002
propanil 601
protoporphyrinogen oxidate 145
protorphyrinogen oxidase 32
protox 145
Pueraria montana 965
Pueraria phaseoloides 774, 792
pulse irrigation 463
purple loosestrife 449, 565
purple nutsedge . . . 13, 181, 348, 557, 731, 1010
purple witchweed 940
pygmyflower 592
pyrithiobac 586, 1002
ragweed parthenium 191
rangeland 118, 260
RAPD 287
RAPD analysis 731
Raphanus raphanistrum 798, 831
red clover 919
red to far-red ratios 208
redroot pigweed 60, 202, 329, 869, 914
reduced rate herbicides 995
redundancy analysis 418
reflectance characteristics 557
relative humidity 430
relative leaf area 171, 363, 386
removal time 540
reproduction 191
reproductive potential 191
residual activity 596
resistance 145, 279, 305, 759
resistance diagnosis 305
resistance mechanisms 678, 831, 839
resource acquisition 546
restoration 260
retention 443
rhizome 356
rice 601
rigid ryegrass 4, 678, 798
risk assessment 254
root absorption 32
root growth 334
root maggots 576
Rottboellia cochinchinensis 177
Rubus argutus 965
Rumex crispus 876
runoff 463, 810
Russian olive 863
Russian thistle 430
rye 987
salinity 610
Salsola iberica 430
scarification 342
Sclerotinia sclerotiorum 294
sclerotinia stemrot 294
Secale cereale 987
secondary dormancy 904
seed depth 886
seed dormancy 690
seed germination 342, 702
seed predation 60, 919, 930, 955
seed production 94, 329
seed reserve utilization 78
seed reserve 78
seed set 19
seedbank 83, 569, 690, 774, 904, 940
seeding date 379
seedling recruitment 569, 904, 919
semivariogram 94
sericea 863
Setaria faberi 363, 386, 402, 569, 752, 919, 930
Setaria pumila 569
Setaria spp 641
Setaria viridis 975
shade tolerance 898
shikimate 294
shoot elongation 708
Sinapis alba 102
simulation model 930
Sisymbrium altissimum 876
site-specific management 319
smellmelon 56, 586
site-specific weed management 947
S-metolachlor 810
smooth pigweed 1, 329
snap beans 171, 202
soil amendments 371
soil depth 725
soil moisture 334, 725
soil pH 826
soil seedbanks 569
soil solution 628
soil temperature 592
soil water 592
Solanum nigrum 208
Solanum ptycanthum . . . 139, 208, 394, 1016
Solanum sarrachoides 1016
Solanum tuberosum 32
solarization 1010
sorghum 914
Sorghum bicolor 914
Sorghum halepense 28, 356, 540
sorption 635
sorption isotherm 635
soybean . . . 37, 44, 163, 294, 402, 557, 618, 947, 987, 995
spatial interpolators 44
spatial variability 319
spatial variation 690
spectral distribution 208
Sphenoptera jugoslavica 237
spiny amaranth 329
spotted knapweed 237
spray drift 443, 781, 786
spring wheat 379, 418, 532
stomatal conductance 28
Striga hermonthica 940
succession 266
successional management 260
sulcotrione 663
sulfentrazone 32, 626
sulfonylurea 305
sulfonylurea herbicides 157
sulfonylurea-resistant weed 305
sunflower broomrape 279
sunflower 279, 854
surfactant 430
susceptibility 759
switchgrass 125
tall rocket 876
tall waterhemp 1
Taraxacum officinale 299, 435
target site 312
target site resistance 831
Taylor's Power Law 226
temperature 348, 356
temperature thresholds 869
threshold 586
threshold density 171
tobacco 826
tomato 181
transgenic bentgrass 130
transgenic cotton 1002
translocation . . 13, 110, 151, 157, 443, 509
triazines 312
trichloroethylene 472
trifluralin 1002
Trifolium incarnatum 987
Trifolium pratense 919
Triticum aestivum . . 231, 379, 418, 509, 515, 532, 618
tropical kudzu 774, 792
tumble pigweed 329
Urophora affinis 237
Urophora quadri fasciata 237
vegetative filter strips 125
velvetleaf 94, 752, 792, 914, 1016
vernalization 379
viability 940
viable spikelets 379
Vicia villosa 628, 995
Virginia copperleaf 569
water quality 810, 817
water stress 342, 683
water use efficiency 191, 523
weed biology 329, 342, 565
weed biomass 532
weed biotypes 731, 740
weed competition 914
weed control 496
weed density 171, 202
weed ecology 919, 930
weed emergence . . . 592, 718, 725, 876, 886
weed flora 418
weed genetics 287
weed genetic diversity 740
weed germination 725, 869, 876
weed growth 363, 386, 898
weed interactions 363
weed interference 402, 408, 947, 975
weed management 618
weed map 44
weed nitrogen concentration 532
weed nitrogen uptake 532
weed patchiness 947
weed population dynamics 60
weed recruitment 725
weed resistance 678, 740, 831, 839
weed seed rain 569
weed seed spatial distribution 226
weed seed survival 955
weed seedbank 708, 774
weed shift 110
weed suppression 87
weed thresholds 947, 975
weed-crop interactions 386
weed-crop interference 102, 181, 586
weed demography 708
weed-suppressive ability 87
Weibull function 356
wetlands 565
wheat 425, 509, 618
wheat injury 231
wheat yield 231
white mold 294
wild carrot 569
wild land weed management 266
wild oat 102, 226, 503, 764
wild radish 798, 831
winter survival 565

winter wheat 231, 515
wooly cupgrass 78
Xanthium strumarium 69, 186, 610
yellow foxtail 569, 641
yellow mustard 102
yellow nutsedge . . . 13, 181, 557, 610, 731, 1010
yellow starthistle 334, 596, 748
yield loss 418
Zea mays . . 44, 60, 163, 363, 386, 408, 443, 523, 540, 546, 628, 774, 810, 955, 975, 995